

REMARKS

Claims 1 and 3-5 were examined in the Office Action mailed June 23, 2008. Claim 6 stands withdrawn pursuant to Election/Restriction Requirement.

A new rejection has been entered, wherein claims 1 and 3-5 now stand rejected under 35 U.S.C. § 103(a) as unpatentable over German Patent No. 35 07 638 to Hoffelner, *et al.* ("Hoffelner") in view of U.S. Patent No. 6,152,454 to Marnot ("Marnot").

The Applicants have amended claim 1 to more precisely recite the present invention. As discussed in the Examiner Interview, the present invention is directed to a novel arrangement for sealing a gap between an end of a shaft and an adjacent housing, in which an axially displaceable annular brush seal seals against a tapered, radially outer surface of the shaft. This arrangement provides a brush seal that is readily adjustable to provide a desired gap at initial installation, thereby avoiding the need for costly, highly precisely-dimensionally-controlled brush seal. The brush seal also may be quickly and easily adjusted to accommodate brush wear, etc., during the seal's life, thereby saving large maintenance costs and minimizing unprofitable machinery down-time. Specification at ¶¶ [0010]-[0012]. The amendment to claim 1 more clearly recites the recited adjustability is focused on the recited brush seal member, *i.e.*, that the axial motion adjusts the engagement of the seal in the second component's sealing surface: "the brush seal is axially displaced relative to the second component while remaining in sealing contact with the second component sealing surface."

The Cited References: As before, Hoffelner is cited as disclosing a sealing arrangement in which an axially-stationary tapered shaft 2 rotates within a brush seal 4. June 23, 2008 Office Action at 2 (citing Hoffelner Fig. 1c). Hoffelner is acknowledged to not disclose an axially-displaceable seal arrangement. *Id.* at 3.

Marnot is cited as disclosing a seal arrangement in which a first component 10 is axially displaceable with respect to a second component 2, with means for such displacement 13, 13a, 9, 14a. *Id.* It is asserted that it would have been obvious to provide Marnot's axial adjustment means to Hoeffelner's brush seal arrangements to obtain the present invention. *Id.*

The Applicants respectfully traverse the pending § 103(a) rejection on the ground that the invention recited in the pending claims, as amended, is not taught or suggested by the Hoeffelner and/or Marnot.

Marnot teaches a device with a movable seal holder 10 and two seals 11, 12. As Marnot states in the written description, this apparatus is entirely directed to rapid in-service replacement of a defective seal by a fresh seal, without the need to disassemble the machine to extract and replace the defective seal member. *See, e.g.,* Marnot at 1:30-44 (description of prior art problem); 1:45-67 (description of shifting of seals, "it being possible for a given-amplitude axial seal shift of said mobile seal carrier to bring said first seal out of contact with said bearing surface and bring the next ... seal into contact with [the] bearing surface"); *see also* Fig. 1 (carrier 10, seals 11, 12).

Thus, Marnot does not disclose or suggest any mechanism for adjustment of a seal's engagement with its corresponding sealing surface. Rather, Marnot teaches a means to: (i) move one seal member out of engagement with a *fixed-position* sealing surface, and (ii) replace the first seal member with a new seal member *at the same fixed position*. Indeed, there is *no* seal engagement *adjustment* capability taught in Marnot – as shown in Marnot Fig. 1a, the apparatus provides for carrier 10 to be locked with locking pin 15 in only one of two positions (corresponding to the two seals engaging the shaft 1 at the same fixed position). Accordingly, even if combined with Hoeffelner's seal and sealing surface, the Marnot-Hoeffelner combination would not provide the present invention's ability to adjust the engagement of the seal member on the conical second shaft sealing surface, for example to compensate for seal wear – or in the words of amended claim 1, the combination would not result in an apparatus in which “the brush seal is axially displaced relative to the second component while remaining in sealing contact with the second component sealing surface.”

Because there is no suggestion or motivation to combine Hoeffelner with Marnot, and in any event, the present invention would not result from such a combination, the pending claims are patentable over these references under § 103(a). Reconsideration and withdrawal of the pending § 103(a) rejection of claims 1 and 3-5 is respectfully requested.

CONCLUSION

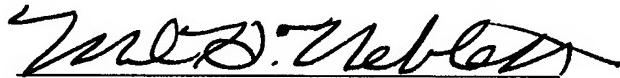
In view of the foregoing amendments and remarks, the Applicants respectfully submit that claims 1 and 3-5 are in condition allowance. Issuance of a Notice of Allowance for claims 1 and 3-5 is respectfully requested.

If there are any questions regarding this preliminary amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #011235.55710US).

Respectfully submitted,

August 11, 2008



Robert L. Grabarek, Jr.
Registration No. 40,625
Mark H. Neblett
Registration No. 42,028

CROWELL & MORING LLP
Intellectual Property Group
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 624-2500
Facsimile No.: (202) 628-8844